upper body segment. The shutoff valve, which is preferably, but not necessarily, a ball valve, includes a controllable shutoff valve closure having a shutoff-valve first side in fluid flow communication with the tank port and a shutoff-valve second side in fluid flow communication with the engine supply port and with the fueling port. The fuel-control manifold further includes a defueling port in the lower body segment, a vent port in the upper body segment, and a defuel/vent valve in the middle body segment. The defuel/vent valve comprises a controllable ball-valve defueling closure having a defueling-valve first side in fluid-flow communication with the shutoff-valve second side and a defueling-valve second side in fluid-flow communication with the defueling port. The defuel/vent valve further comprises a controllable ball-valve vent closure having a vent-valve first side in fluid-flow communication with the vent port, and a vent-valve second side in fluid-flow communication with the defueling-valve second side. The defueling closure and the vent closure are mounted on a common defuel/vent valve stem. The defueling closure and the vent closure cannot be open at the same time. There may be an instrumentation port in the upper body segment, with the instrumentation port in fluid-flow communication with the shutoff-valve second side. Desirably, the defuel/vent valve has no elastomeric materials in the direct sealing/flow path.

[0009] In another embodiment, a fuel-control manifold comprises a body, a tank port in the body, an engine supply port in the body, a fueling port in the body, and a shutoff valve in the body. The shutoff valve, which is preferably a ball valve, includes a controllable shutoff valve closure having a first shutoff-valve side in fluid flow communication with the tank port and a second shutoff-valve side in fluid flow communication with the engine supply port and the fueling port. The fuel-control manifold further includes a defueling port in the body, a vent port in the body, and a defuel/vent valve in the body. The defuel/vent valve comprises a defuel/vent valve closure structure including a controllable ball-valve defueling closure having a first defueling-valve side in fluid-flow communication with the second shutoff-valve side and a second defueling-valve side in fluid-flow communication with the defueling port.

A1 cont

The defuel-vent valve further comprises a controllable ball-valve vent closure having a vent-valve first side in fluid-flow communication with the vent port, and a vent-valve second side in fluid-flow communication with the defueling-valve second side. The defueling closure and the vent closure being mounted on a common defuel/vent valve stem. The defueling closure and the vent closure cannot be open at the same time. There may be an instrumentation port in the body, with the instrumentation port in fluid-flow communication with the shutoff-valve second side.

A2

[0012] Desirably, the body has three separate segments that are joined together, with the shutoff valve in an upper body segment and the defuel-valve in a middle body segment. There may be an instrumentation port in the body, with the instrumentation port in fluid-flow communication with the shutoff-valve second side. Preferably, the defuel/vent valve closure structure comprises a controllable ball-valve defueling closure having a first defueling-valve side in fluid-flow communication with the second shutoff-valve side and a second defueling-valve side in fluid-flow communication with the defueling port, and a controllable ball-valve vent closure having a vent-valve first side in fluid-flow communication with the vent port, and a vent-valve second side in fluid-flow communication with the defueling-valve second side. The defueling closure and the vent closure are preferably mounted on a common defuel/vent valve stem.

IN THE CLAIMS:

Enter the following claims to replace the previously submitted claims of the same respective number:

A3

1. (Amended) A fuel-control manifold, comprising:

a non-integral body comprising at least three pieces joined together and including an upper body segment, a middle body segment, and a lower body segment;

a tank port in the upper body segment;

an engine supply port in the upper body segment;